

Appl.No.09/615,643

Response dated September 1, 2004

Reply to Office action of March 1, 2003

**Listing of the Claims**

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims as follows:

1. (Currently Amended) A method of forming a bone composite, comprising:  
providing bone tissue;  
grinding said bone tissue to form osteoinductive ground bone tissue in particle form;  
molding the osteoinductive ground bone tissue into a bone composite;  
hydrating the bone composite with water;  
applying a binder to the bone composite; and  
curing the bone composite into a self-supporting, solid structure that will maintain rigid form before and after surgical implantation.
2. (Original) The method of claim 1, wherein the bone tissue is substantially cortical bone tissue.
3. (Original) The method of claim 2, wherein the bone tissue is substantially demineralized.

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4. (Original) The method of claim 2, wherein the bone tissue is greater than 50% cortical bone tissue.
5. (Original) The method of claim 2, wherein the bone tissue is greater than 70% cortical bone tissue.
6. (Original) The method of claim 1, wherein the ground bone tissue is greater than 90% cortical bone tissue.
7. (Original) The method of claim 1, wherein the ground bone tissue is greater than 95% cortical bone tissue.
8. (Previously Presented) The method of claim 1, wherein the ground bone tissue is ground to a size ranging from 125 to 850 microns in size.
9. (Original) The method of claim 1, wherein the molding step occurs at from 14.7 p.s.i. to about 30,000 p.s.i.
10. (Original) The method of claim 1, wherein the binder is applied to the ground bone before the molding step.

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11. (Original) The method of claim 1, where the binder is applied to the ground bone after the molding step.
12. (Original) The method of claim 1, wherein the binder is applied by an injection, spray, bath, soaking or layering.
13. (Original) The method of claim 1, wherein the binder comprises fibrin.
14. (Original) The method of claim 1, wherein the binder comprises cyanoacrylates.
15. (Previously Presented).The method of claim 14, wherein the cyanoacrylates comprise ester chain, N-butyl, or butyl cyanoacrylates.
16. (Previously Presented).The method of claim 14, wherein the cyanoacrylates are long chain cyanoacrylates.
17. (Currently Amended) The method of claim 1, wherein the ~~bone-composite~~ solid structure is a bone pin, screw or prosthesis.

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18. (Original) The method of claim 1, wherein the molding step further comprises the application of pressure and shaping the composite with a die.
19. (Withdrawn) An implantable bone tissue composite, comprising:  
ground bone tissue including an organic matrix and substantially cortical bone tissue, the bone tissue molded to form a desired solid shape, and  
a binder selected from at least one of a cyanoacrylate or fibrin.
20. (Canceled).
21. (Withdrawn) The bone tissue composite of claim 19, wherein the bone tissue is more than 50% cortical bone tissue.
22. (Withdrawn) The bone tissue composite of claim 19, wherein the bone tissue is more than 70% cortical bone tissue.
23. (Withdrawn) The bone tissue composite of claim 19, wherein the bone tissue is more than 90% cortical bone tissue.

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24. (Withdrawn) The bone tissue composite of claim 19, wherein the bone tissue is more than 95% cortical bone tissue.

25. (Withdrawn) The bone tissue composite of claim 19, wherein the ground bone tissue is from 125 to 850 microns in size.

26. (Withdrawn) The bone tissue composite of claim 19, wherein the desired shape is molded at from 14.7 psi to about 30,000 psi.

27. (Withdrawn) The bone tissue composite of claim 19, wherein the binder comprises fibrin.

28. (Withdrawn) The bone tissue composite of claim 19, wherein the binder comprises cyanoacrylates.

29. (Withdrawn) The bone tissue composite of claim 19, wherein the cyanoacrylates comprise ester chain, N-butyl, or butyl cyanoacrylates.

30. (Withdrawn) The bone tissue composite of claim 19, wherein the cyanoacrylates are long chain cyanoacrylates.

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31. (Withdrawn) The bone tissue composite of claim 19, wherein the bone composite is a bone pin, screw or prosthesis.

32. (Currently Amended) A method of forming an implantable bone composite structure, comprising:

providing bone tissue,

grinding said bone tissue to a size of from 125 to 850 microns in size to form ground bone tissue,

molding the ground bone tissue under pressure to form a bone composite structure,

hydrating the bone composite with water;

introducing a cyanoacrylate binder to the bone composite, and

allowing the bone composite to solidify into a self-supporting, force bearing solid structure that will maintain a rigid form before and after surgical implantation.